



Genomes to Life is a systems biology program of the DOE Office of Biological and Environmental Research (BER) and the Office of Advanced Scientific Computing Research (OASCR) of the DOE Office of Science



# **Exploring Systems Biology**

A comprehensive understanding of cellular processes in a realistic context

### **Genomes to Life Scientific Goals**

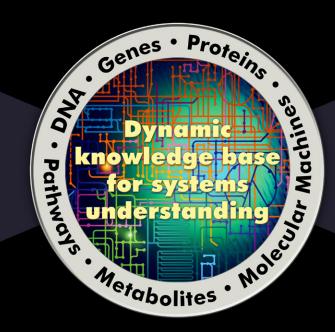
- Identify and characterize multimolecular machines performing life functions
- Characterize gene regulatory networks and pathways controlling cellular processes
- Characterize diverse functional abilities in natural microbial communities
- Develop new computational capabilities for modeling complex living systems

### **Accelerating the Pace of Discovery**

A plan by BER and OASCR to develop complementary, large-scale user facilities accessible to the life sciences community

## **User Facilities for Systems Biology**

- Facility I for Production and Characterization of Proteins
- Facility II for Whole Proteome Analysis
- Facility III for Characterization and Imaging of Molecular Machines
- Facility IV for Analysis and Modeling of Cellular Systems



#### **Facilities Hallmarks**

- Microbial genomes
- Advanced technologies
- High-throughput analysis and production
- Informatics and databases
- Computing and simulation
- Biosystems training